

What is Claimed Is:

1. An inter-domain mobility management method, comprising:
 - 5 (a) a mobile H.323 entity communicating information related to the mobile entity with a first gatekeeper in a first administrative domain;
 - (b) said first gatekeeper being unable to verify information on said mobile H.323 entity and sending information to a first border element within said first administrative domain;
 - 10 (c) said first border element communicating information with a second border element in a second administrative domain to resolve said information related to the mobile entity;
 - (d) said second border element communicates back with said first border element with information to resolve said information related to the mobile
 - 15 entity;
 - (e) said second border element accepting said resolved information related to the mobile entity and communicates said information with said mobile H.323 entity via said first gatekeeper.
- 20 2. The method of claim 1 wherein said information received by said first gatekeeper is transferred to a second gatekeeper within said first administrative domain.
3. The method of claim 1 wherein said second administrative domain is the
- 25 home administrative domain for said mobile H.323 entity.
4. The method of claim 1 wherein said first administrative domain is a serving, visiting, visited or foreign administrative domain for said mobile H.323 entity.

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5. The method of claim 1 wherein said first gatekeeper requests said information related to the mobile entity to register, authenticate, verify, resolve, allocate resources to said mobile H.323 entity.
- 5 6. An inter-domain mobility management method, comprising:
 - (a) a mobile H.323 entity communicating information related to the mobile entity with a first gatekeeper in a first administrative domain having a first backend services;
 - (b) said first gatekeeper being unable to verify information on said
10 mobile H.323 entity and sending information to a first border element within said first administrative domain;
 - (c) said first border element communicating information with a second border element in a second administrative domain to resolve said information related to the mobile entity;
 - 15 (d) said second border element obtains information from a second backend services in said second administrative domain and communicates back with said first border element with information to resolve said information related to the mobile entity;
 - (e) said second border element accepting said resolved information
20 related to the mobile entity and communicates said information with said mobile H.323 entity via said first gatekeeper.
7. The method of claim 6 wherein said information received by said first gatekeeper is transferred to a second gatekeeper within said first
25 administrative domain.
8. The method of claim 6 wherein said second administrative domain is the home administrative domain for said mobile H.323 entity.

9. The method of claim 6 wherein said first administrative domain is a serving, visiting, visited or foreign administrative domain for said mobile H.323 entity.
- 5 10. The method of claim 6 wherein said first gatekeeper requests said information related to the mobile entity to register, authenticate, verify, resolve, allocate resources to said mobile H.323 entity.
- 10 11. The method of claim 6 wherein information obtained from said second backend services is stored within said first backend services.
12. The method of claim 6 wherein information obtained from said second backend services is stored within said first backend services and wherein subsequently said first backend services provides home location functions.
- 15 13. The method of claim 6 wherein information obtained from said second backend services is stored within said first backend services and wherein subsequently said first backend services provides home location functions, and wherein said home location functions provides services selected from a group consisting of address, registration, verification, resolution, allocation and authentication.
- 20 14. An inter-domain mobility management method, comprising:
- 25 (a) a mobile H.323 entity communicating information related to the mobile entity with a first gatekeeper in a first administrative domain having a first backend services;
- (b) said first gatekeeper being unable to verify information on said mobile H.323 entity and sending information to a first border element within said
- 30 first administrative domain;

(c) said first border element communicating information with a first backend services to resolve said information related to the mobile entity, wherein said first backend services is shared with both said first administrative domain and a second administrative domain;

5 (d) said second border element obtains information from said first backend services in said first and said second administrative domain and communicates it back to said first border element with information to resolve said information related to the mobile entity;

(e) said second border element accepting said resolved information
10 related to the mobile entity and communicates said information with said mobile H.323 entity via said first gatekeeper.

15 15. The method of claim 14 wherein said information received by said first gatekeeper is transferred to a second gatekeeper within said first administrative domain.

16. The method of claim 14 wherein said second administrative domain is the home administrative domain for said mobile H.323 entity.

20 17. The method of claim 14 wherein said first administrative domain is a serving, visiting, visited or foreign administrative domain for said mobile H.323 entity.

25 18. The method of claim 14 wherein said first gatekeeper requests said information related to the mobile entity to register, authenticate, verify, resolve, allocate resources to said mobile H.323 entity.

19. The method of claim 14 wherein a mobile H.323 entity in said first administrative domain communicates with said first backend services.

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20. An inter-domain mobility management method, comprising:

(a) a mobile H.323 entity communicating information related to the mobile entity with a first gatekeeper in a first administrative domain having a first backend services;

5 (b) said first gatekeeper being unable to verify information on said mobile H.323 entity and sending information to a first border element within said first administrative domain;

(c) said first border element communicating information with a second border element in a second administrative domain to resolve said information
10 related to the mobile entity;

(d) said second border element obtains information from a second backend services in said second administrative domain via at least one gatekeeper in said second administrative domain and communicates back with said first border element with information to resolve said information related to
15 the mobile entity;

(e) said second border element accepting said resolved information related to the mobile entity and communicates said information with said mobile H.323 entity via said first gatekeeper.

20 21. The method of claim 20 wherein said information received by said first gatekeeper is transferred to a second gatekeeper within said first administrative domain.

22. The method of claim 20 wherein said second administrative domain is
25 the home administrative domain for said mobile H.323 entity.

23. The method of claim 20 wherein said first administrative domain is a serving, visiting, visited or foreign administrative domain for said mobile H.323 entity.

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24. The method of claim 20 wherein said first gatekeeper requests said information related to the mobile entity to register, authenticate, verify, resolve, allocate resources to said mobile H.323 entity.

5 25. An inter-domain mobility management method, comprising:

(a) a mobile H.323 entity communicating information related to the mobile entity with a first gatekeeper in a first administrative domain having a first home location function;

10 (b) said first gatekeeper being unable to verify information on said mobile H.323 entity and sending information to a first border element within said first administrative domain;

(c) said first border element communicating information with a second border element in a second administrative domain to resolve said information related to the mobile entity;

15 (d) said second border element obtains information from a second home location function in said second administrative domain and communicates back with said first border element with information to resolve said information related to the mobile entity;

20 (e) said second border element accepting said resolved information related to the mobile entity and communicates said information with said mobile H.323 entity via said first gatekeeper.

25 26. The method of claim 25 wherein said information received by said first gatekeeper is transferred to a second gatekeeper within said first administrative domain.

27. The method of claim 25 wherein said second administrative domain is the home administrative domain for said mobile H.323 entity.

28. The method of claim 25 wherein said first administrative domain is a serving, visiting, visited or foreign administrative domain for said mobile H.323 entity.
- 5 29. The method of claim 25 wherein said first gatekeeper requests said information related to the mobile entity to register, authenticate, verify, resolve, allocate resources to said mobile H.323 entity.
- 10 30. The method of claim 25 wherein information obtained from said second home location function is stored within said first home location function.
- 15 31. The method of claim 25 wherein information obtained from said second home location function is stored within said first home location function and wherein subsequently said first home location function provides home location functions.
- 20 32. The method of claim 25 wherein information obtained from said second home location function is stored within said first home location function and wherein subsequently said first home location function provides home location functions, and wherein said home location functions provides services selected from a group consisting of address, registration, verification, resolution, allocation and authentication.
- 25 33. An inter-domain mobility management method, comprising:
(a) a mobile H.323 entity communicating information related to the mobile entity with a first gatekeeper in a first administrative domain having a first home location function;
(b) said first gatekeeper being unable to verify information on said mobile H.323 entity and sending information to a first border element within said
30 first administrative domain;

(c) said first border element communicating information with a second border element in a second administrative domain to resolve said information related to the mobile entity;

5 (d) said second border element obtains information from a second home location function in said second administrative domain via at least one gatekeeper in said second administrative domain and communicates back with said first border element with information to resolve said information related to the mobile entity;

10 (e) said second border element accepting said resolved information related to the mobile entity and communicates said information with said mobile H.323 entity via said first gatekeeper.

15 34. The method of claim 33 wherein said information received by said first gatekeeper is transferred to a second gatekeeper within said first administrative domain.

35. The method of claim 33 wherein said second administrative domain is the home administrative domain for said mobile H.323 entity.

20 36. The method of claim 33 wherein said first administrative domain is a serving, visiting, visited or foreign administrative domain for said mobile H.323 entity.

25 37. The method of claim 33 wherein said first gatekeeper requests said information related to the mobile entity to register, authenticate, verify, resolve, allocate resources to said mobile H.323 entity.

30 38. The method of claim 33 wherein information obtained from said second home location function is stored within said first home location function.

39. The method of claim 33 wherein information obtained from said second home location function is stored within said first home location function and wherein subsequently said first home location function provides home location functions.

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40. The method of claim 33 wherein information obtained from said second home location function is stored within said first home location function and wherein subsequently said first home location function provides home location functions, and wherein said home location functions provides services selected from a group consisting of address, registration, verification, resolution, allocation and authentication.

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41. An H.323-based mobility protocol for real-time mobile multimedia communications and conferencing over packet-based networks by a Mobile Terminal/Node/Entity having a Home Gatekeeper/Home Database, comprising the steps of:

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upon becoming mobile and initiating an H.323 communication that includes at least one of: audio, video and data, by the Mobile Terminal/Node/Entity, with respect to notification, one of:

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providing, by at least one of a plurality of available H.323 Visiting/Foreign Gatekeepers in a first administrative domain, notification of H.323 mobility services availability by periodically broadcasting/multicasting/unicasting a Mobility Gatekeeper Advertisement; and

5 where the Mobile Terminal/Node/Entity lacks notification of H.323 mobility services availability, broadcasting/multicasting/unicasting /sending, by the Mobile Terminal/Node/Entity, a message to the Home Gatekeeper/Home Location Database in a second administrative domain, which notifies H.323 Visiting/Foreign Gatekeepers that the Mobile Terminal/Node/Entity needs H.323
10 mobility services and notifying, by the H.323 Visiting/Foreign Gatekeepers, to the Mobile Terminal/Node/Entity of available H.323 Visiting/Foreign Gatekeepers within the first administrative domain;

 registering, by the Mobile Terminal/Node/Entity, with a H.323 Visiting/Foreign Gatekeeper of the available H.323 Visiting/Foreign
15 Gatekeepers that support H.323 mobility services; and

 providing, for the Mobile Terminal/Node/Entity by the H.323 Visiting/Foreign Gatekeeper with which the Mobile Terminal/Node/Entity is registered, support for the H.323 communication that includes at least one of:
 audio, video and data.

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42. The H.323-based mobility protocol of claim 41 wherein registering with the H.323 Visiting/Foreign Gatekeeper includes sending registration information for the Mobile Terminal/Node/Entity using a Base Station to Base Station Controller to Mobile Switching Center to H.323 Visiting/Foreign Gatekeeper
25 system.

43. The H.323-based mobility protocol of claim 41 wherein registering with the at least one H.323 Visiting/Foreign Gatekeeper includes sending registration information for the Mobile Terminal/Node/Entity using a

wireless/wire-line Local Area Network to Router/Switch to H.323
Visiting/Foreign Gatekeeper system.

44. The H.323-based mobility protocol of claim 41 wherein registering
5 includes the steps of:
- broadcasting/multicasting/unicasting /sending, by the Home Gatekeeper,
a Mobility Gatekeeper Advertisement (MGA) message periodically;
 - broadcasting/multicasting/unicasting/sending a registration request
message (RRQ) to the Home Gatekeeper by the Mobile Terminal/Node/Entity;
 - 10 and
 - sending, by the Home Gatekeeper, a registration
confirmation/registration rejection (RCF/RRJ) to the Mobile
Terminal/Node/Entity.

- 15 45. The H.323-based mobility protocol of claim 41 wherein registering
includes the steps of:
- upon determining, by the Mobile Terminal/Node/Entity, that a network
point of attachment has changed/a foreign zone has been entered,
 - broadcasting/multicasting/unicasting /sending, by the Mobile
20 Terminal/Node/Entity, a registration request message (RRQ) to a
Foreign/Visiting Gatekeeper;
 - broadcasting/multicasting/unicasting /sending, by the Foreign/Visiting
Gatekeeper, a binding update message (BuRQ) to the Home Gatekeeper;
 - broadcasting/multicasting/unicasting/sending, by the Home Gatekeeper,
25 a binding update confirmation/rejection (BuCF/BuRJ) to the Foreign/Visiting
Gatekeeper;
 - broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting
Gatekeeper, the binding update confirmation/rejection to the Mobile
Terminal/Node/Entity.

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46. The H.323-based mobility protocol of claim 45 wherein, where the Mobile Terminal/Node/Entity has already visited another zone regulated by a Visited Gatekeeper within the first administrative domain, registering includes:

5 broadcasting/multicasting/unicasting/sending, by the Home Gatekeeper,
a mobility unbinding message (UbRQ) to the Visited Gatekeeper; and
 broadcasting/multicasting/unicasting/sending, by the Visited Gatekeeper,
a mobility unbinding confirmation/rejection (UbCF/UbrJ) to the Home
Gatekeeper.

10 47. The H.323-based mobility protocol of claim 41 wherein, where the Mobile Terminal/Node/Entity has already visited another zone regulated by a Visited Gatekeeper within the first administrative domain, registering includes:

15 broadcasting/multicasting/unicasting/sending, by the Mobile
Terminal/Node/Entity, a registration request message (RRQ) to a
Foreign/Visiting Gatekeeper;
 broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting
Gatekeeper, a mobility unbinding update message (UbRQ) to the Visited
Gatekeeper;
 broadcasting/multicasting/unicasting/sending, by the Visited Gatekeeper,
20 a mobility unbinding confirmation/rejection (UbCF/UbrJ) to the Foreign/Visiting
Gatekeeper;

 broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting
Gatekeeper, a provisional registration confirmation to the Mobile
Terminal/Node/Entity and broadcasting/multicasting/unicasting/sending, by
25 the Foreign/Visiting Gatekeeper, a binding update message (BuRQ) to the
Home Gatekeeper; and

 broadcasting/multicasting/unicasting/sending, by the Home Gatekeeper,
a binding update confirmation/rejection (BuCF/BuRJ) to the Foreign/Visiting
Gatekeeper.

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48. The H.323-based mobility protocol of claim 41 wherein, where the Mobile Terminal/Node/Entity has already visited another zone regulated by a Visited Gatekeeper within the first administrative domain, registering includes:

- 5 broadcasting/multicasting/unicasting/sending, by the Mobile Terminal/Node/Entity, a registration request message (RRQ) to a Foreign/Visiting Gatekeeper;
- broadcasting/multicasting/unicasting/sending, by the Visited Gatekeeper, a mobility unbinding confirmation/rejection (UbCF/UbRJ) to the Foreign/Visiting Gatekeeper;
- 10 broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting Gatekeeper, a provisional registration confirmation to the Mobile Terminal/Node/Entity and broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting Gatekeeper, a binding update message (BuRQ) to the Home Gatekeeper;
- 15 broadcasting/multicasting/unicasting/sending, by the Home Gatekeeper, a binding update confirmation/rejection (BuCF/BuRJ) to the Foreign/Visiting Gatekeeper;
- broadcasting/multicasting/unicasting/sending, by the Home Gatekeeper, a mobility unbinding update message (UbRQ) to the Visited Gatekeeper; and
- 20 broadcasting/multicasting/unicasting/sending, by the Visited Gatekeeper, a mobility unbinding confirmation/rejection (UbCF/UbRJ) to the Home Gatekeeper.

49. The H.323-based mobility protocol of claim 41 wherein at least one
25 Visiting/Foreign Gatekeeper utilizes a combined Home/Visitor Location Database.

50. The H.323-based mobility protocol of claim 41 wherein a plurality of
Visiting/Foreign Gatekeepers each utilize an individual Visitor Location
30 Database and share a Home Location Database.

51. The H.323-based mobility protocol of claim 41 wherein the communication utilizes an Internet Protocol.

- 5 52. A computer-readable medium having computer-executable steps for implementing, by a Mobile Terminal/Node/Entity, an H.323-based mobility protocol for real-time mobile multimedia communications and conferencing over packet-based networks wherein a plurality of H.323 gatekeepers provide notification of H.323 mobility services availability by periodically
- 10 broadcasting/multicasting/unicasting a Mobility Gatekeeper Advertisement, comprising the computer-executable steps of:
- where the Mobile Terminal/Node/Entity becomes mobile and initiates an H.323 communication that includes at least one of: audio, video and data, by the Mobile Terminal/Node/Entity, with respect to notification, one of:
- 15 providing, by at least one of a plurality of available H.323 Visiting/Foreign Gatekeepers within a first administrative domain, notification of H.323 mobility services availability by periodically broadcasting/multicasting/unicasting/sending a Mobility Gatekeeper Advertisement; and
- where the Mobile Terminal/Node/Entity lacks notification of H.323
- 20 mobility services availability, broadcasting/multicasting/unicasting/sending, by the Mobile Terminal/Node/Entity, a message to the Home Gatekeeper/Home Location Database in a second administrative domain, which notifies H.323 Visiting/Foreign Gatekeepers that the Mobile Terminal/Node/Entity needs H.323 mobility services and notifying, by the H.323 Visiting/Foreign Gatekeepers, to
- 25 the Mobile Terminal/Node/Entity of available H.323 Visiting/Foreign Gatekeepers within the first administrative domain;
- registering, by the Mobile Terminal/Node/Entity, with a H.323 Visiting/Foreign Gatekeeper of the available H.323 Visiting/Foreign Gatekeepers that support H.323 mobility services; and

providing, for the Mobile Terminal/Node/Entity by the H.323 Visiting/Foreign Gatekeeper with which the Mobile Terminal/Node/Entity is registered, support for the H.323 communication that includes at least one of: audio, video and data.

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53. The computer-readable medium of claim 52 wherein registering with the H.323 Visiting/Foreign Gatekeeper includes sending registration information for the Mobile Terminal/Node/Entity using a Base Station to Base Station Controller to Mobile Switching Center to H.323 Visiting/Foreign Gatekeeper system.

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54. The computer-readable medium of claim 52 wherein Databasing with the at least one H.323 Visiting/Foreign Gatekeeper includes sending registration information for the Mobile Terminal/Node/Entity using a wireless/wire-line Local Area Network to Router/Switch to H.323 Visiting/Foreign Gatekeeper system.

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55. The computer-readable medium of claim 52 wherein registering includes the steps of:

broadcasting/multicasting/unicasting/sending, by the Home Gatekeeper, a Mobility Gatekeeper Advertisement (MGA) message periodically;

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broadcasting/multicasting/unicasting/sending a registration request message (RRQ) to the Home Gatekeeper by the Mobile Terminal/Node/Entity; and

sending, by the Home Gatekeeper, a registration confirmation/registration rejection (RCF/RRJ) to the Mobile

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Terminal/Node/Entity.

56. The computer-readable medium of claim 52 wherein registering includes the steps of:

upon determining, by the Mobile Terminal/Node/Entity, that a network point of attachment has changed/a foreign zone has been entered,

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broadcasting/multicasting/unicasting/sending, by the Mobile Terminal/Node/Entity, a registration request message (RRQ) to a Foreign/Visiting Gatekeeper;

5 broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting Gatekeeper, a binding update message (BuRQ) to the Home Gatekeeper;

broadcasting/sending, by the Home Gatekeeper, a binding update confirmation/rejection (BuCF/BuRJ) to the Foreign/Visiting Gatekeeper;

10 broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting Gatekeeper, the binding update confirmation/rejection to the Mobile Terminal/Node/Entity.

57. The computer-readable medium of claim 56 wherein, where the Mobile Terminal/Node/Entity has already visited another zone regulated by a Visited Gatekeeper within the first administrative domain, registering includes:

15 broadcasting/multicasting/unicasting/sending, by the Home Gatekeeper, a mobility unbinding message (UbRQ) to the Visited Gatekeeper; and

broadcasting/multicasting/unicasting/sending, by the Visited Gatekeeper, a mobility unbinding confirmation/rejection (UbCF/UbRJ) to the Home Gatekeeper.

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58. The computer-readable medium of claim 52 wherein, where the Mobile Terminal/Node/Entity has already visited another zone regulated by a Visited Gatekeeper within the first administrative domain, registering includes:

25 broadcasting/multicasting/unicasting/sending, by the Mobile Terminal/Node/Entity, a registration request message (RRQ) to a Foreign/Visiting Gatekeeper;

broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting Gatekeeper, a mobility unbinding update message (UbRQ) to the Visited Gatekeeper;

broadcasting/multicasting/unicasting/sending, by the Visited Gatekeeper, a mobility unbinding confirmation/rejection (UbCF/UbRJ) to the Foreign/Visiting Gatekeeper;

5 broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting Gatekeeper, a provisional registration confirmation to the Mobile Terminal/Node/Terminal and broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting Gatekeeper, a binding update message (BuRQ) to the Home Gatekeeper; and

10 broadcasting/multicasting/unicasting/sending, by the Home Gatekeeper, a binding update confirmation/rejection (BuCF/BuRJ) to the Foreign/Visiting Gatekeeper.

59. The computer-readable medium of claim 52 wherein, where the Mobile Terminal/Node/Entity has already visited another zone regulated by a Visited Gatekeeper within the first administrative domain, registering includes:

15 broadcasting/multicasting/unicasting/sending, by the Mobile Terminal/Node/Entity, a registration request message (RRQ) to a Foreign/Visiting Gatekeeper;

20 broadcasting/multicasting/unicasting/sending, by the Visited Gatekeeper, a mobility unbinding confirmation/rejection (UbCF/UbRJ) to the Foreign/Visiting Gatekeeper;

25 broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting Gatekeeper, a provisional registration confirmation to the Mobile Terminal/Node/Terminal and broadcasting/multicasting/unicasting/sending, by the Foreign/Visiting Gatekeeper, a binding update message (BuRQ) to the Home Gatekeeper;

broadcasting/multicasting/unicasting/sending, by the Home Gatekeeper, a binding update confirmation/rejection (BuCF/BuRJ) to the Foreign/Visiting Gatekeeper;

broadcasting/multicasting/unicasting/sending, by the Home Gatekeeper,
a mobility unbinding update message (UbRQ) to the Visited Gatekeeper; and

broadcasting/multicasting/unicasting/sending, by the Visited Gatekeeper,
a mobility unbinding confirmation/rejection (UbCF/UbRJ) to the Home

5 Gatekeeper.

60. The computer-readable medium of claim 52 wherein at least one
Visiting/Foreign Gatekeeper utilizes a combined Home/Visitor Location
Database.

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61. The computer-readable medium of claim 52 wherein a plurality of
Visiting/Foreign Gatekeepers each utilize an individual Visitor Location
Database and share a Home Location Database.

15 62. The computer-readable medium of claim 52 wherein the communication
utilizes an Internet Protocol.